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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,949	12/24/2003	Daisuke Kurose	04329.3214	9581

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EXAMINER

LUU, AN T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,949	Applicant(s) KUROSE ET AL.	
	Examiner An T. Luu	Art Unit 2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-12 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's Amendment filed on 4-4-05 has been received and entered in the case. The rejections set forth in the previous Office Action are maintained as indicated below.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by the Voorman reference (U.S. Patent 4,780,690).

Voorman discloses in figure 1 an apparatus comprising a signal input terminal 7; an inverting amplifier 1 which has an amplifier input terminal (+ terminal) and an amplifier output terminal and 4 inverts a signal inputted to the amplifier input terminal (see polarities of in- and out-put); a signal output terminal 4 connected amplifier output terminal 4; a first resistor R1 and a second resistor R2 which are connected in series between the signal input terminal and the amplifier input terminal; a capacitor C1 connected between the amplifier input terminal and the amplifier output terminal; a field effect transistor T3 (see col. 2, lines 49-50 for FET in place of bi-polar transistor) including a gate terminal connected to a junction point of the first and second resistors (as shown) a source terminal kept at a constant potential (+ power supply, col. 3, line 63), and a drain terminal connected to the amplifier input terminal; and a control circuit I1 which controls the current conversion ratio of the transistor according to a time constant control signal

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i.e., I1 is controllable) as required by claim 1. It is noted that the limitation “*the field effect transistor flowing a current corresponding to a voltage-current conversion ratio through the drain terminal according to a voltage between the gate terminal and the source terminal*” is seen as inherent result derived from the above structure.

As to claim 2, figure 1 shows the control circuit I1 controls an operating point of the gate terminal according to the time constant control signal via elements T1, T2, R1 and R2.

As to claim 3, figure 6 shows a filter circuit comprising a plurality of unit filters connected in cascade, each of which includes a variable time constant circuit according to claim 1.

Response to Arguments

3. Applicant's arguments filed 4-4-05 have been fully considered but they are not persuasive.

Regarding the rejection of claim 1, Applicant has argued that current source I1 of the Voorman reference does not control the voltage-current conversion ratio of transistor T3 as required by claim 1. Examiner respectfully disagrees with Applicant's position because of the following reason:

- The limitation “*voltage-current conversion ratio*” is defined by claim 1 as an effective current passing through a transistor according to a voltage between the gate terminal and the source terminal of the transistor.
- Current source I1 of Voorman is shown as an adjustable current source which is adjusted by an external source (i.e., time constant control signal or user input).

Varying the current source I1, in effect, changes the potential difference

between collector (emitter) and gate of transistor. Therefore, current source I1 is fully qualified as a control circuit to control “*voltage-current conversion ratio*” of a transistor coupled to it by varying the current level.

Further, Applicant has argued “the gate terminal of Voorman's transistor T1 or T2 is not connected to a junction point of the first and second resistors as required by claim 1”. Examiner respectfully disagrees since transistor T3 of Voorman is identified as the transistor for rejecting the limitation “*a field effect transistor*” of claim 1. And the gate of transistor is shown to connect to a junction point of the first and second resistors as required by the claim.

Allowable Subject Matter

4. Claims 4-12 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose an apparatus comprising elements being configured as recited in claim 4. Specifically, none of the prior art teaches or fairly suggest, among other things, the limitations “*third and fourth transistors*” and “*a second capacitor*” being configured as recited in claim.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 571-272-1746. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

An T. Luu
4-15-05 *ATL*


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